

Technical Manual

A trade guide that outlines specification, installation, care and maintenance in commercial and residential use

Amisco[®]



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1.0 Amtico Product Description



1.1 Product Description

Luxury Vinyl Floor Tiles

1.2 Areas of Use

Suitable when a quality fashionable product with excellent wear and appearance retention is required. Environments include retail, offices, licensed premises, health, leisure other public buildings and domestic homes.

1.3 Product Details

Thickness	Overall: 2.5mm
	Wear Layer: 1.0mm
Recommended Dimensions	
Woods:	76 x 915mm (3" x 36") 114 x 915mm (4 1/2" x 36") 152 x 915mm (6" x 36")
Stones:	305 x 305mm (12" x 12") 305 x 457mm (12" x 18") 457 x 457mm (18" x 18")
Innovation (incl. Colorzone):	305 x 305mm (12" x 12") 457 x 457mm (18" x 18")*
	Please note: custom sizes available on some designs
	*not all designs
Packaging	4.2 m ² (5 yds ²) per box. 2.5m ² (3 yds ²) per box.
Weight	3.1 kg/m ²
Design Options	Woods, Marbles, Stones, Slates, Metallics, Special Effects and Custom Made Designs

2.1 Scope

- 2.1.1** Furnish materials, labour, and other equipment necessary to complete the Amtico tile flooring and related works as required on architectural drawings and/or installation instructions from Amtico International.

2.2 Materials

- 2.2.1** Amtico International (Amtico) shall manufacture the flooring.
- 2.2.2** The manufacturer of the flooring must be accredited to both ISO 9001 (Quality Management System) and ISO 14001 (Environmental Management System).
- 2.2.3** Product: Shall meet or exceed the characteristics specified under EN 649. The overall thickness shall be 2.5mm and the Wear Layer shall be 1.0mm in thickness.
- 2.2.4** Styles and sizes shall be as per the most recent published information.

2.3 Structural

- 2.3.1** Fire Resistance: The product must meet the requirements of EN13501-1 and ASTM E648 Class 1.
- 2.3.2** Residual Indentation: The product will have a residual indentation of 0.04mm or less when tested in accordance with EN433.
- 2.3.3** Slip Resistance: The product, when tested to DIN 51130, will meet or exceed the R9 classification.
- 2.3.4** Wear resistance: The product must attain wear group T (EN 649) and usage classification of 34, 43 (EN 685).

2.4 Preparation of Surface

- 2.4.1** For satisfactory performance, the surface must be cleaned of all foreign material that may be detrimental to the adhesion of the flooring. If patching or levelling is required a cementitious patch must be used.
- 2.4.2** The floor must be free from dust and debris prior to installation.

2.5 Installation of Material

- 2.5.1** Installation procedures should comply with BS8203 (BS Code of Practice for the installation of Resilient Floor Coverings), and be in strict accordance with Amtico International's most recently published installation instructions (see www.amtico.com). Installation must not begin until all other trades have been completed.
- 2.5.2** Handle and store product according to Amtico recommendations. Leave material in unopened, labelled, original cartons. When required, boxes should be opened and tiles acclimatised in the area to be installed at a constant temperature between 18°C and 27°C for at least 24 hours before, during and after installation.
- 2.5.3** The adhesive will be Amtico SF, Amtico HT or Universal 2-Part adhesive. The appropriate adhesive is required for all installations involving Amtico products.

2.6 Maintenance

- 2.6.1** After the floor has been installed it should be cleaned as per Amtico maintenance instructions.

3.1 General

The installation of Amtico is straightforward and follows the same guidelines that apply to all quality resilient tile floors. Good preparation is essential for a trouble-free installation. Amtico can be laid on concrete, timber, stone and many other sub-floors, which have been suitably prepared. Site conditions must comply with the relevant national regulations.

Amtico is not suitable for external installation or unheated locations but it can be used with under-floor heating providing it is switched off for 48 hours before and after laying (the maximum permitted surface temperature is 27°C/81°F). We recommend that the installed floor should not be allowed to cool below 13°C during its service life.

Tiles, adhesive and sub-floor must be allowed to stabilise to a consistent temperature between 18°C and 27°C (64°F and 81°F) for a period of 24 hours before and after installation. Tiles must be stored flat.

Following installation, Amtico should be protected from heavy traffic for 24 hours and must not be washed for 48 hours. Always follow other manufacturers' recommendations when using their proprietary materials for sub-floor preparation.

3.2 Sub-floor

3.2.1 Overview

Careful sub-floor preparation is vital for an excellent floor appearance and good tile adhesion. The sub-floor must be hard, smooth, clean, dry, free from defects and fit for purpose. A suitable levelling compound should be used to ensure that no irregularities show through to the surface of the finished floor.

In all cases, the sub-floor must be sufficiently dry and the relative humidity (RH) checked to ensure it is not greater than 75% RH by using a suitable moisture test method. Direct-to-earth concrete and stone sub-floors must have an effective damp proof membrane (DPM). Follow manufacturer's detailed instructions for the installation of a surface DPM and the use of levelling compound.

3.2.2 New Concrete

Must be allowed sufficient time to dry thoroughly as it will contain a high percentage of residual moisture. Apply levelling compound.

3.2.3 Old Concrete

Must be cleaned of all paint, grease, wax and any other foreign matter. Apply levelling compound.

3.2.4 Old Resilient Floors

Existing tiles should be lifted and adhesive residues removed by scraping. No solvents should be used to remove old adhesive. Apply levelling compound.

N.B. As a safety precaution when lifting vinyl asbestos tiles the appropriate safety measures should be adhered to.

3.2.5 Terrazzo/Stone

Repair worn or damaged areas. Degrease and apply levelling compound.

3.2.6 Timber

Must be overlaid with minimum 6mm (1/4") exterior or flooring grade plywood, which must be suitably secured. A suitable feathering or finishing compound should be used to ensure joints are not visible when the Amtico installation is complete.

3.3 Installation and Adhesives

3.3.1 Recommended Adhesives

Only the recommended adhesives should be used – others will not give adequate performance and may fail.

(i) SF Adhesive

SF Adhesive is a water-based acrylic adhesive recommended for all areas except those subject to heat or moisture.

(ii) HT Adhesive

HT Adhesive is a single-part, water-based acrylic adhesive that has improved temperature resistance. It is recommended for areas subject to some heat variations, such as conservatories and adjacent to sunny windows. It is also suitable for use where underfloor heating has been fitted.

(iii) Universal 2-Part Adhesive

Universal Adhesive must be used for bonding Amtico in wet areas such as shower rooms. It may also be used for high temperature areas. Universal is entirely solvent-free and classified as EC1 with respect to very low VOC emissions.

3.4 Usage of Adhesives

Follow the instructions on the packaging. Spread adhesive evenly using a trowel with notch size 1.5x5mm (UK), a Euro A2 (1.8x1.2x1.65mm) or V notch 1/16th" x 1/16th" x 1/16th" (USA). Do not use worn trowels.

Only spread sufficient adhesive that can be covered within the recommended open time.

Amtico tiles should be rolled with a 45kg (100lbs) roller as soon as possible after laying and before the adhesive sets – timing will depend on site conditions but is generally 1-2 hours after spreading the adhesive.

Always clean away excess adhesive before it is allowed to dry – use a soft cloth moistened with Amtico Adhesive Remover.

Dried adhesive can be removed by carefully scraping it off the tile, or by using a 3M blue pad moistened with Amtico Adhesive Remover.

4.1 Introduction

Amtico can be installed on concrete, timber, stone and many other sub-floors which have been suitably prepared, and is also appropriate for use with under-floor heating. It must not, however, be installed either externally or into unheated locations.

These guidance notes are intended to give general information on the methods that can be used to prepare various sub-floor types. However, the selection of suitable materials, including smoothing and levelling compounds and any ancillary products is dependent upon the end use of the completed flooring, and must be agreed by the supplier of the preparative materials and the flooring contractor. Any proprietary materials used for floor preparation must be used in accordance with the manufacturers' recommended instructions.

The finished appearance of an Amtico floor will be as good as the quality of the base over which it is installed. The base should be hard, smooth, clean and dry and free from defects. The surfaces should be even in order to achieve good fitting and adhesion. Any irregularities in the sub-floor will show through the finished floor. The effective application of Amtico flooring is dependent upon suitable site conditions, which must comply with the requirements of the relevant national standards e.g. British Standard 8203. Floor laying work should not begin until the installer has assessed and approved the sub-floor conditions. Serious defects should always be reported immediately to the appropriate authority and corrected before installing the floor covering.

4.2 Concrete Sub-floors

4.2.1 General Conditions

Concrete floors should be properly cured and thoroughly dry before installation can be started.

Amtico should not be applied to a concrete base unless the concrete is sufficiently dry, for example when assessed according to the requirements of BS 8203, it should show a hygrometer reading not greater than 75% relative humidity (RH). Information regarding the construction of the sub-floor should first be obtained, as many factors can affect the readings taken.

Concrete sub-floors must be thoroughly cleaned of all foreign matter, which is preferably carried out using a suitable mechanical method. Solvents must not be used to remove oils, greases etc as the contaminants may be absorbed into the concrete; at a later date they may migrate back to the surface, producing an adhesive failure.

Amtico must only be installed on a very smooth sub-floor. If necessary, use a suitable under-layment to make the concrete sub-floor smooth and even to receive the tiles.

4.2.2 Moisture in Sub-floors

Moisture testing of both new and old concrete sub-floors is recommended before installation.

The only acceptable method of test in the UK is that described in BS 8203, using a hygrometer of the hair, paper or synthetic fibre type, or an electronic relative humidity probe, such as the Protimeter Concrete-master. These instruments measure the relative humidity (RH) of the trapped air immediately above the concrete surface. The standard recommends this type of non-destructive surface measurement rather than the use of an invasive method.

In use the hygrometer should be fixed to the floor and sealed round the edges. Alternatively it can be covered with a transparent polythene sheet, which is taped around the edges to seal it.

Each hygrometer should always be calibrated before use; this may be carried out by placing the hygrometer over a saturated sodium chloride (salt) solution in a desiccator for 12 hours. The instrument should then be adjusted to 75%.

Several instruments should be placed in various locations, particularly on large floors, and they should be left until they reach equilibrium, which may take several days. Indeed, on power-floated slabs it can take weeks before equilibrium is reached, as this type of substrate has a low porosity surface and slow movement of vapour within the slab. Full details of the method of test can be obtained from the BS 8203 booklet.

The sub-floor may be considered dry when the relative humidity falls to 75% or less.

4.2.3 Damp Proof Membranes

It is a requirement within the Building Regulations that a floor which is next to the ground be constructed in such a manner as to prevent any part of the floor being adversely affected by moisture vapour from the ground.

The specifier should ensure that the recommendations of these regulations are strictly adhered to, as experience has shown that there are no effective alternatives to a correctly laid damp-proof membrane (DPM).

Amtico must be installed on concrete sub-floors which are laid direct to earth only where an approved DPM has been incorporated. Whenever there is doubt as to an effective damp-proof membrane, a surface DPM should be applied.

4.2.4 New Concrete

Amtico must only be installed on a thoroughly dry concrete sub-floor. Drying time will depend on several conditions, including thickness of slab, location, type of concrete, temperature and humidity.

New concrete bases contain a high percentage of residual moisture. The time required for concrete to reach a sufficient dry state is estimated at approximately one day per millimetre thickness of concrete. As a guide this applies to screeds up to 50 mm thickness but for concrete of a greater thickness drying out times should be considerably increased.

New concrete sub-floors must have a level and smooth surface, which must be free of grooves, score marks, cracks and ripples. The surface must be vacuumed or brushed to remove all foreign matter. If dusty conditions exist, a damp mop may be used to clean the concrete, which must then be left to dry thoroughly.

4.2.5 Old Concrete

Old concrete sub-floors must be thoroughly cleaned of all paint, grease, wax and other foreign matter. The floor must be hard, smooth and level. Use suitable under-layment to fill grooves, cracks, holes and depressions.

The floor must be thoroughly dry before proceeding with the installation of the flooring.

4.2.6 Power Floated Concrete

A concrete floor slab can be finished using a power float. Power floated concrete has a relatively non-absorbent, low porosity surface, which can affect moisture testing (see section 4.2.2) and some adhesives may also take longer to reach a tacky stage on this type of sub-floor; further, surface laitance may be produced by the power floating procedure. For these reasons, it is recommended that an appropriate method of mechanical preparation eg shot blasting is used to prepare the surface, before carrying out moisture testing and subsequent finishing operations, such as application of damp proof membrane (if necessary) primer and levelling compound. As ever, when using preparative materials, the manufacturers' recommendations must be followed

4.2.7 Anhydrite

Anhydrite (or calcium sulfate based) screeds are becoming more widely used in large commercial premises and it can be difficult to identify them as such – they can be mistaken for the more traditional cement-based products. However, it is critical that flooring contractors know which type of screed they are working with, as there are some fundamental differences in the way in which they should be handled. For this reason, it is imperative that there is liaison between the various contractors before installation work commences.

Provided ambient conditions are acceptable, anhydrite screeds dry at a similar rate to their cement-based counterparts, and once adequately dry can be levelled to make them suitable for receiving resilient flooring.

Recommendations for the preparation of the anhydrite surface and the choice of appropriate levelling compound should be obtained from the manufacturer of the levelling compound.

Fresh anhydrite screeds should be treated with caution.

Most importantly, the use of a surface damp-proof membrane to suppress residual construction moisture is not recommended – the screed should be allowed to dry out to an acceptable level. Agreement should be reached between all the parties involved in the screed installation as to an acceptable method for determining the amount of construction moisture, which must be at, or below, the requirements defined in British Standards BS 8203 and BS 8204 Part 7.

4.2.8 Mastic Asphalt

Mastic asphalt is normally applied between 15 and 20mm thickness and sets to a dense hard mass which is impermeable to moisture and therefore forms an efficient damp-proof membrane.

Mastic asphalt is often applied over an existing concrete base which lacks a conventional DPM.

It is recommended that an asphalt screed be skimmed with at least 3mm of a suitable levelling compound. The asphalt will need to be cleaned and may require priming before applying the levelling compound. Note: mastic asphalt bases can contribute to static build-up in certain types of installation.

4.2.9 Others

Certain types of sub-floor may not be suitable for installing Amtico, or even accepting under-layment materials, unless specific preparative methods are used, for example certain types of lightweight concrete.

In these instances specialist advice must be obtained from the suppliers of under-layment materials.

4.2.10 Smoothing and Levelling Compounds

The purpose of smoothing and levelling compounds is to repair a damaged surface or to provide a smooth and level surface on an otherwise suitable sub-floor.

Only cementitious (portland cement-based) under-layment materials should be used. The selection of the correct type of smoothing and levelling product is critical in determining the long-term durability and appearance of the flooring system.

Proper preparation of the surface of the concrete sub-floor to receive the under-layment material is essential to the long-term performance of the flooring system. Good adhesion of the under-layment to the sub-floor is critically important, and may require the use of a suitable priming material. The flooring contractor must decide whether the adhesion is satisfactory.

Expansion joints are incorporated into concrete floor slabs in order to permit movement without causing cracks in the concrete. These joints must not be filled with under-layment products or other materials, and floor coverings must not be laid over them.

Smoothing and levelling compounds should be protected from other trades against contamination and damage, and must be as dry as possible prior to installation of Amtico floors (See BS 8203).

Cement screeds incorporating resin additives dry out quicker, give improved surface hardness and can be used when shorter drying times are required.

4.2.11 Repair and Finishing Compounds

These compounds have been specially formulated to dry rapidly and provide a high bond to concrete, plywood, cement/sand screeds, existing sub-floor smoothing compounds and even existing ceramic tiles, without the use of primers.

The sand and cement screed, plywood and ceramic tiled sub-floors must be dry, sound and clean, free of dust, grease and other barriers that might impair adhesion to the compound.

In certain applications, they may be used to blind out existing adhesive residues that are hard, thin, sound and well-bonded. The residues must not be affected by either the initial wetting from the applied mortar or the adhesive used to install the new floor covering.

4.3 Wooden Sub-floors

4.3.1 General Conditions

Existing suspended floors need to be brought to an even, smooth and sound condition by the application of an overlay of a suitable plywood to obtain a successful result. The smoother the sub-floor, the better the finished floor will look and perform.

Wood sub-floors that exhibit excessive deflection, or are "springy" or "give" when walked on, are not suitable for installing Amtico unless suitable remedial work is carried out.

In ground floors, an effective damp-proof membrane should be incorporated in the construction, and a vapour check sheet must be provided immediately below the floor decking material.

Suspended floors should have adequately ventilated air spaces between the underside of the joists and the ground to prevent dry rot.

Responsibility for the performance and/or warranty of any type of under-layment board is with the manufacturer of the board and the installer.

4.3.2 Joisted Floors

The application of Amtico flooring over new suspended timber or metal joisted floors should be made onto specially manufactured flooring grade plywood, laid and fixed in accordance with the manufacturers' recommendations. The spacing of floor joists or supporting battens should be in accordance with the board manufacturer's recommendations in relation to board thickness and anticipated floor loadings.

4.3.3 Chipboard

Chipboard can be sensitive to movement caused by service conditions and as such it is not recommended that Amtico is installed directly onto chipboard. It should be overlaid with plywood, as described in section 4.3.5.

4.3.4 Wood Block Floors

Existing wood block floors laid on a concrete base are unsatisfactory as an under-layment for resilient floors even when some form of over-layment such as plywood has been fitted.

Such floors should be lifted and the sub-base screeded and made level. It is essential that before screeding commences the floor is checked to ensure that a satisfactory DPM is present.

4.3.5 Plywood Overlays

Plywood should normally be 6 mm exterior grade to WBP (weather and boil proof) or American Plywood Association (APA) standard. The thickness selected should be determined by the quality of the surface regularity of the existing boarding, the traffic intensity and applied floor loadings. In particularly heavily trafficked commercial areas, a thicker grade of plywood may be required. Panels should be acclimatised to the job site long enough to stabilise to atmospheric conditions since dimensional changes occur with fluctuations in ambient humidity. This is accomplished by standing individual panels on edge for several days in the location where they will be installed. Always check with the panel manufacturer for recommendations as to installation requirements and acceptable conditions prior to specifying or installing any panel.

Under-layment panels should be protected against physical damage or water prior to application.

Prior to overlaying, loose floor boards should be firmly nailed down. If necessary the boards should be planed and levelled with a suitable levelling compound prior to covering with plywood. The base may require priming before applying the levelling compound. Nail heads and screws should be finished flush and filled to give a smooth finish. Where spot stapling is used the contractor must ensure that the underlying floor boards are firmly fixed.

The plywood should be laid in sheet sizes not exceeding 2400 x 1200 mm, and fixed using twisted shank or ring shank nails, serrated or divergent staples. Fixing should start at the centre of each sheet, nailing or stapling at 150 mm intervals at intermediate centres and at 100 mm centres along the perimeters with the fixing line 12 mm from the edge. All nail heads should be finished flush with the surface.

Joint lines should be staggered, and every effort made to prevent coincidence of joints in the sheets and the timber base. We would recommend the use of a suitable smoothing compound to ensure the joints of the plywood are not visible when the installation is complete.

4.4 Other Types of Sub-floors

4.4.1 Terrazzo and Stone Products

Some existing flooring materials such as quarry tiles, ceramic or terrazzo may be suitable for the installation of Amtico if properly prepared. These bases may be sufficiently porous to allow moisture to pass through to the back of the tile, and must be checked for moisture and damp-proofed if necessary. Worn and damaged areas must be repaired, including any tiles that are insecure, which must be removed.

The surface must be thoroughly cleaned of all sealants and varnishes, as well as foreign matter such as oil, grease, wax, etc. It is recommended that a suitable mechanical method is used to prepare the surface, as this will also provide a satisfactory surface to accept underlayment materials.

A surface DPM should then be applied, if required, and finally the sub-floor should be smoothed using a suitable levelling compound. A primer may need to be applied to the DPM for the levelling compound to have sufficient adhesion.

4.4.2 Metal

(i) Direct

The metal surface should be cleaned/degreased and then prepared by grinding or scarifying to ensure that it is clean and free from any contamination, such as rust or metal oxide. It should then be mechanically abraded to give a surface key. Amtico can then be installed onto the prepared surface using Amtico Universal 2-Part Adhesive.

NB: under no circumstances should a water-based adhesive be used for bonding directly to metal.

(ii) Indirect

The metal surface should be cleaned/degreased and then prepared by grinding or scarifying to ensure that it is clean and free from any contamination, such as rust or metal oxide. It should then be mechanically abraded to give a surface key.

A suitable primer should be applied to the metal surface prior to putting down a recommended levelling or smoothing compound, which must be a minimum thickness of 3 mm.

Once the smoothing or levelling compound has dried, Amtico SF Adhesive or Amtico HT Adhesive can be used. If there is doubt as to the levelling or smoothing compound being a minimum of 3 mm in thickness, then Amtico Universal 2-Part Adhesive must be used.

4.4.3 Existing Resilient Floors

It is not recommended that Amtico products be applied over existing resilient floors. In such situations the old flooring should be removed and as much as possible of the old adhesive scraped away. Provided the remaining residues are well-bonded and not subject to softening from water, it may be possible to prime and then apply a suitable levelling compound, otherwise the residues will need to be removed using an appropriate mechanical method. Under no circumstances should solvents be used.

NB: Some resilient tiles and adhesives can contain asbestos. In case of doubt, contact the relevant local authority for advice on their removal and disposal.

4.4.4 Under Floor Heating

All hot water pipes and electrical heating elements should be embedded in concrete in accordance with the appropriate Building Regulations.

If Amtico is laid on a screed which incorporates hot water pipes or under-floor heating, these should be insulated to ensure that the temperature at the adhesive interface does not exceed 27°C.

Under-floor heating should be switched off for 48 hours before, and should not be switched back on until 48 hours have elapsed after installation.

N.B. It has become common practice to bed hot water pipes feeding central heating systems into the sand/cement screed overlaying concrete slabs. This can lead to flooring materials becoming discoloured and distorted over a period of time. No responsibility will be accepted for materials affected under such circumstances.

5.1 Safety Notice

Poor maintenance can lead to a slippery floor, which can cause accidents. Please heed the precautions below to keep your floor as safe as possible.

5.2 Maintenance Hints and Safety Information

5.2.1 Safety and Prevention of Accidents

- (i) Wet floors can be slippery. Ensure suitable entrance matting is used to prevent the entry of water. (Any water on the floor, even small drips from umbrellas etc., must be mopped up at once.)
- (ii) Spillages of water, grease, food, chemicals and other foreign materials may also cause the floor to become very slippery. Wipe up spills immediately with an absorbent cloth and then wash thoroughly with Amtico Floor Cleaner, properly diluted, until completely clean. Rinse and allow to dry thoroughly.
- (iii) Many furniture polishes and glass cleaners contain chemicals and silicones which, in contact with the floor, may cause slipperiness. Even small amounts of overspray can create a hazard.
- (iv) When washing, polishing or stripping floors, exclude traffic from all treated areas until completely dry. Even damp floors can be slippery.
- (iv) Be careful with the use of airborne insecticide, disinfectant and perfume sprays. Some contain oils or solvents which may settle on the floor in sufficient quantity to cause slipperiness.

5.2.2 Maintenance and Protection

- (i) Vacuum or brush the floor regularly to remove dust and grit
- (ii) Suitable entrance barrier matting or walk off mats when properly serviced can effectively remove many abrasive and foreign materials from foot traffic and cut down on tracked-in water. These will reduce the maintenance requirement in entry areas and extend the life of the floor.
- (iii) Avoid rubber or latex backed mats as these may leave stains.
- (iv) Some airborne insecticides may also harm the surface of the tile.
- (v) Protect against scratching from furniture feet by using wide free-moving casters, glides, rollers or felt pads. Use furniture cups under heavy items or appliances to prevent indentation.
- (vi) Do not use small or narrow casters or those with crowned tread, as they can damage the floor.
- (vii) Do not allow cigarettes, matches or other very hot items to contact the floor.

5.2.3 Selection of Maintenance Products

- (i) Choose and use maintenance products carefully. Products containing soap or unsuitable detergents such as washing up liquid may leave hard-to-remove film on the surface. These can detract from the appearance and may be slippery.
- (ii) Do not use products at too high a concentration as this may leave a surface residue.
- (iii) In domestic locations, Amtico maintenance products are carefully manufactured to produce the highest performance when used in accordance with the instructions on the containers.

5.3 Benefits of Dressing an Amtico Floor

5.3.1 If a gloss finish is required or the floor is an older Amtico floor, an application of Amtico Floor Dressing is an option. Please refer to Periodic Maintenance of Amtico Floors, section 6.2.3 (commercial) or section 7.2.2 (residential).

5.3.2 An Amtico floor is extremely hardwearing but, even this tough surface can be scratched and marked by sharp grit or other objects. If surface scratching or deeper accidental damage is incurred, it is important to identify and remove the cause of the problem. The appearance of surface scratches can be minimised by thoroughly cleaning the floor and apply a suitable floor dressing. With accidental damage, while it can be improved, it may be preferable to replace the damaged area.

6.0 Amtico Floor Maintenance – Commercial Guidelines Part 1 General Guidelines



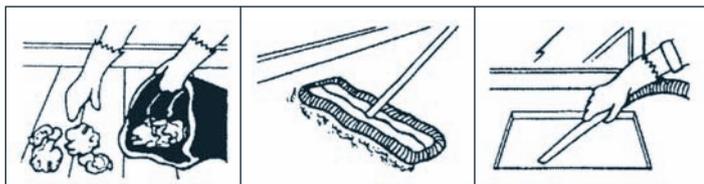
6.1 General Guidelines for All Floors

6.1.1 Introduction

This document gives information for routine maintenance of Amtico PVC floors. For further information, (including the **Amtico Guide to Maintenance Products**, our chemical and equipment recommendations) please refer to our website www.amtico.com or ask your maintenance product supplier. All floors should be swept and dust mopped daily, following which soiling and marking can be removed using the appropriate method (or combination of methods for a systems approach) described below.

Before commencing work, put out signs to warn people that cleaning is in progress.

6.1.2 Daily Sweeping and Mopping



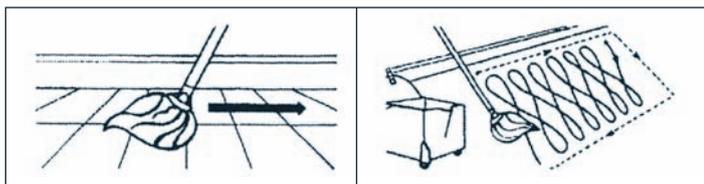
- Pick up litter and thoroughly sweep floor area using non-treated dust mop.
- Pick up debris with dustpan and brush.
- Vacuum walk-off mats and crevices at entrance(s).

6.1.3 Manual Mopping – Ideal for small or congested areas (up to 50 sq m / 500 sq ft)

Manual mopping is used for soil removal in small or congested areas (including within large floors) and some mark removal. Spray cleaning may be required for heavier surface marking.

(Note: In conditions of heavy soiling, perform a pre-wash by preparing a solution of a neutral detergent diluted in accordance with the manufacturer's instructions and pre-wash heavily soiled areas).

Prepare a solution of neutral detergent diluted in accordance with manufacturer's instructions.



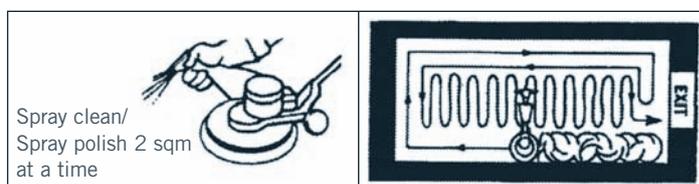
- Using a two-bucket mopping system, apply solution using a well-wrung mop to remove soiling.
- Mop using overlapping strokes.
- Rinse the mop frequently and change the solution as necessary.

- Allow entire floor area to dry thoroughly.
- Remove "Caution" signs.

Ensure all equipment is cleaned thoroughly after use and stored safely.

6.1.4 Spray Cleaning – Ideal for small / medium size areas (up to 50 sq m / 500 sq ft)

Spray cleaning can be used for light soil removal in small/medium size areas and removal of most scuff marks from all floor sizes. Pre wash (see **Manual mopping**) if the floor is heavily soiled.



- Follow daily sweeping and dust mopping instructions.
- Pour diluted neutral cleaning or cleaner maintainer solution into a suitable spray container.
- Apply a fine mist of liquid on to an area of approximately 2 square metres at a time. Use a rotary buffing machine (approx. 450 rpm) fitted with a red or blue 3M nylon scrubbing pad (or equivalent).
- Work in parallel overlapping passes until the floor is clean and dry.
- Remove "Caution" signs.

6.1.5 Scrubber Drying – Ideal for large areas (50 sq m / 500 sq ft and over)

Scrubber dryers may be used for high productivity removal of soiling and some scuff mark removal. **Spray cleaning** may be required to remove heavier surface marking.

- Follow daily sweeping and dust mopping instructions.
- Prepare solution of neutral cleaner as per manufacturer's instructions and pour into the dispensing tank. The scrubber dryer should be fitted with a red or blue 3M nylon scrubbing pad (or equivalent).
- Scrub entire floor area.
- Remove "Caution" signs.

Ensure all equipment is cleaned thoroughly after use and stored safely.

Note: Amtico Super-tough finish does not require dressing and should not be buffed with any pad more abrasive than a red 3M pad (or equivalent). For further information on chemical and machinery selection, please see "The Amtico Guide to Maintenance Products."

6.0

Amtico Floor Maintenance – Commercial Guidelines

Part 1 General Guidelines



6.1.6 Tips – Dealing with spills

- i) Spills of water, grease, food, chemicals and other foreign matter may cause the floor to become slippery.
- ii) Wipe up spills immediately with an absorbent cloth, then wash thoroughly with a properly diluted neutral detergent until the spill area is completely clean.
- iii) Rinse and allow to dry thoroughly.

6.1.7 Periodic Maintenance

- i) At least once a year the floor should be scrubbed thoroughly to remove in-grained dirt and floor dressing if applied. Please refer to the Amtico guide to stripping a floor on the reverse of this sheet.

6.0 Amtico Floor Maintenance – Commercial Guidelines

Part 2 Guide to Stripping an Amtico Floor



6.2 Guide to Stripping an Amtico Floor

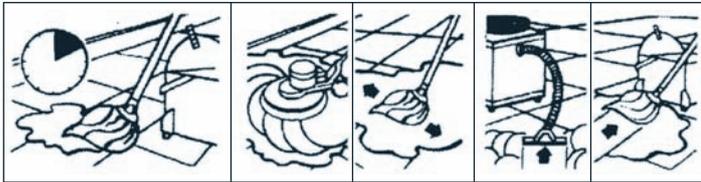
6.2.1 Notice

This card gives information for stripping a floor to remove in-grained soiling and floor dressing if applied.

Before commencing work, put out signs to warn people that cleaning is in progress.

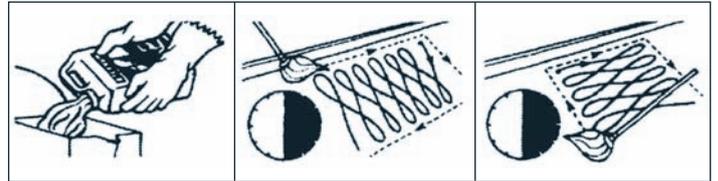
6.2.2 Preparing the Solution

Prepare a solution of floor dressing remover as per manufacturer's instructions. Carefully follow all safety instructions, particularly noting that the floor can become slippery during the stripping process.



- (i) Apply plenty of solution over a manageable area.
- (ii) Allow 5 – 10 mins contact time.
- (iii) Either machine scrub with a green 3M (or equivalent pad) or agitate solution with mop. Do not allow slurry to dry.
- (iv) Either remove slurry with wet vacuum machine or mop and bucket. Rinse floor twice with clean water, allow to dry.

6.2.3 Application of Dressing Required



- (i) Pour quantity of polish into bucket.
- (ii) Load mop with polish.
- (iii) Apply thin even coat.
- (iv) Start at furthest point from exit.
- (v) Apply a thin even coat 15-25 cm from the skirting and fill in with overlapping passes. Allow to dry (approx 30 minutes).
- (vi) Apply second coat at 90° (angle) to first.
- (vii) Allow to dry (approx 30 mins). Do not buff for 24 hours.
- (viii) Remove Caution Signs.

All equipment should be cleaned thoroughly after use and stored safely.

6.2.4 Notes

Do not use the same equipment for stripping as that used for application of floor dressing.

Amtico Super-tough finish does not require dressing and should not be buffed with any pad more abrasive than a red 3M (or equivalent) pad.

Entrance mats, when properly serviced, can effectively remove any abrasive and foreign materials from foot traffic and cut down on tracked in water. Amtico recommend a minimum of two full strides of entrance matting.

For further information (including the **Amtico Guide to Maintenance Products**, our chemical and equipment recommendations), refer to the Amtico website www.amtico.com or your maintenance product supplier.

Other maintenance data sheets only available upon request as follows:

- The Amtico Guide to **Manual Mopping**
- The Amtico Guide to **Spray Cleaning**
- The Amtico Guide to **Scrubber Drying**

Chemicals						
Manufacturer	Neutral Cleanser	Alkaline Cleanser	Cleaner Maintainer	Emulsion Polish	Dressing Remover	
British Nova Works Tel: 01295 254030 www.britishnova.co.uk sales@britishnova.co.uk	Liquid 99	Nova One	Nova Care	Nova Long Life	Nova Starbrite	
Wetrok Tel: 01925 711123 www.wetrok.uk.com sales@wetrok.uk.com	Resal	Rewit	Brill	Mepol HD	Remat	
Premiere Products Tel: 01242 537150 www.premiereproducts.co.uk training@premiereproducts.co.uk	Low Foam	M.P.9	Clean and Buff	Platinum 25 Platinum Satin	Premstrip 2000	
Ecolab Tel: 01793 548888 www.ecolab.com sales.uk@ecolab.com	Neomat Star Plus	Powerclean	Indurbrilliant Plus	Isi Starr	Spirit Stripper	
Johnson Diversey Tel: 0800 525525 www.johnsondiversey.com customerservice.jd-uk@johnsondiversey.com	Carefree Stride 1000	Carefree Stride 2000	Carefree Floor Maintainer	Carefree Satin or Eternum	Carefree Speed Stripper	
Machines						
Manufacturer	Rotary Buffing Machines	Scrubber Driers	Rotary Washing Machines	Cleaning Pads	Barrier Matting	Mopping Systems
Wetrok Tel: 01925 711123 www.wetrok.uk.com sales@wetrok.co.uk	■	■				
Premiere Products Tel: 01242 537150 www.premiereproducts.co.uk training@premiereproducts.co.uk	■	■				■
Ecolab Tel: 0800 789600 www.ecolab.com sales.uk@ecolab.com						■
Johnson Diversey Tel: 0800 525525 www.johnsondiversey.com customerservice.jd-uk@johnsondiversey.com	■	■				
Karcher (UK) Ltd Tel: 01295 752099 www.karcher.co.uk sales@wetrok.uk.com	■	■	■			
Victor Tel: 0121 706 5771 www.victorfloorcare.com / www.victorcentral.com sales@victorcentral.co.uk	■	■				■
3M United Kingdom PLC Tel: 08705 360036 www.3m.com/uk commcareuk@mmm.com				■	■	
Bonar Floors Tel: 0800 0282162 www.bonarfloors.com customerservice@bonarfloors.com					■	

7.1 Routine Maintenance of Domestic Amtico Floors

7.1.1 Introduction

Appropriate maintenance procedures will help preserve the appearance and extend the life of an Amtico floor. The frequency of maintenance will depend on the amount and type of traffic, degree of soiling and the floor colour and type. Where possible, PREVENT dirt from reaching the floor. A suitable barrier matting system will help prevent soiling and abrasive material from entering a building and make maintenance easier.

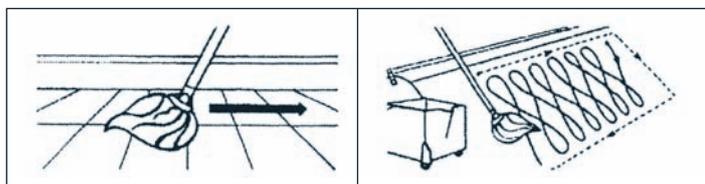
7.1.2 Daily Sweeping and Dust Mopping

Thoroughly sweep floor area using non-treated dust mop or dustpan and brush.

Maintain barrier matting by shaking externally or vacuuming.

7.1.3 Manual Mopping

Prepare solution of Amtico Floor Cleaner diluted in accordance with instructions on the container.



- (i) Apply a solution using a well wrung mop to remove soiling.
- (ii) Mop using overlapping strokes.
- (iii) Rinse the mop frequently and change the solution as necessary.
- (iv) Dirty water will leave an unsightly residue on the surface.

Allow entire floor area to dry thoroughly.

Ensure all equipment is cleaned thoroughly after use and stored safely.

Any scuff marks that are not removed during routine cleaning may be gently rubbed with a non-abrasive or nylon pad of the type used on non-stick cookware.

7.1.4 Tips

Dealing with spillage

- (i) Spills of water, grease, food, chemicals and other foreign matter may cause the floor to become slippery.
- (ii) Wipe up all spills immediately with an absorbent cloth, then wash thoroughly with diluted Amtico Floor Cleaner until the spill area is completely clean.
- (iii) Rinse and allow to dry thoroughly.

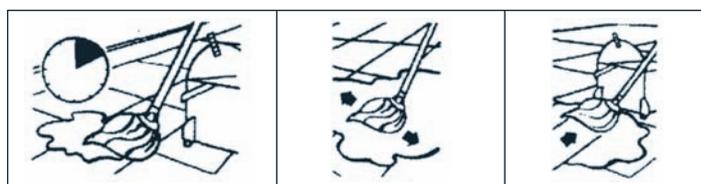
7.1.5 Periodic Maintenance

At least once a year, floors should be stripped thoroughly to remove in-grained dirt and floor dressing if applied. Please refer to the section 7.2 Periodic Maintenance of Domestic Amtico floors.

7.2 Periodic Maintenance of Domestic Amtico Floors

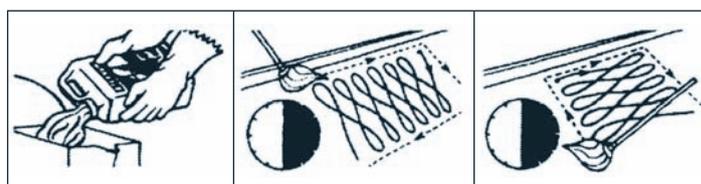
7.2.1 Stripping The Floor

Prepare a solution of Amtico Floor Dressing Remover as per the instructions on the container. Carefully follow all safety instructions, particularly noting that the floor can become slippery during the stripping process.



- (i) Apply plenty of solution over a manageable area.
- (ii) Allow 5 – 10 minutes contact time.
- (iii) Agitate solution with mop. Do not allow slurry to dry.
- (iv) Remove slurry with mop and bucket. Rinse floor twice with clean water, allow to dry.

7.2.2 Application of Floor Dressing if required



- (i) Pour quantity of Amtico Dressing into bucket.
- (ii) Using clean mop, load with dressing, and partially wring out. Starting at the furthest point from the exit, apply a thin even coat around the perimeter and then apply to the main floor with overlapping passes.
- (iii) Allow to dry (approx 30 mins).
- (iv) Apply second coat at right angles to first coat and allow to dry (approx. 30 mins).

Ensure all equipment is cleaned thoroughly after use and stored safely.

7.2.3 Notes

Do not use the same equipment for the application of Floor Dressing as used for stripping.

Suitable entrance matting, when properly serviced, can be effective in removing abrasive and foreign materials from foot traffic and reduce the amount of tracked in water.

8.0 Table of Amtico Technical Standards



Standard	Reference	Result
Manufacturing Standard	EN649	Pass
Wear Group Classification	EN685	34,43
NF-UPEC Classification	NF-UPEC	U ₄ P ₃ E ₂ C ₂
Abrasion Resistance	EN660	Group T Thickness loss (typical) 0.077mm
Slip Resistance	DIN 51130 ASTM D2047 EN13893	R9 >0.5 (dry coefficient of friction) ADA Compliant Class DS
Residual Indentation	EN 433 ASTM F1700	0.04mm Pass
Chemical Resistance	EN423 ASTM F925	Excellent Excellent
Sound Reduction	DIN52210	4 dB
Light Stability	ISO 105 B02 ASTM F1515	7 or better Exceeds requirements
Dimensional Stability	EN434 ASTM F1700	< 0.25% Exceeds requirements
Thermal Resistance	DIN 52612	0.026 Km ² /W (underfloor heating suitable)
Thermal Conductivity	DIN 52612	0.4 to 0.65 W/mK 3.0 to 4.5 BTU/in/ft ² /°F
Flexibility	EN435 ASTM F137	Pass Pass
Flammability/Smoke Emissions	DIN 4102 IMO A653 (16) ASTM E648 ONORM 3800/3810 NT Fire 007 Swiss French Epiradiateur EN13501-1	B1 Pass Class 1 Class Q1/B1 Class G Class 5.3 M3 Class B _{FL} -S1
Wear Layer Thickness	EN429	1.0mm
Castor Chair Resistance	EN425	Pass
Heat Resistance	ASTM 1514	Exceeds requirements

1 Identification

Material: Amtico SF Adhesive
 Company: Amtico International
 Address: Kingfield Road, Coventry, CV6 5AA, UK

2 Composition

Substances Posing a Health Hazard
Substance: Ethylene Glycol MonoPhenyl Ether
CAS No: 122-99-6
EC No: 204-589-7
Symbol: Xn
Risk Phrases: R22, R36
Conc. (% w/w) <5%

General Description

Blend of aqueous acrylic polymer emulsion, resin, process oil and structuring filler with small percentages of stabilisers and thickening agent.

3 Hazard Identification

Most Important Hazards to Persons

Prolonged or repeated contact with the skin may cause dermatitic effects in sensitive individuals.

Most Important Hazards to the Environment

Product is not readily bio-degradable and should not be discharged to surface waters or land without pre-treatment.

4 First Aid Measures

Inhalation

Move affected person to fresh air immediately.
 Get medical attention if any discomfort continues.

Skin Contact

Wash affected area immediately with plenty of soap and water. Get medical attention if any discomfort continues.

Eye Contact

Irrigate the eye immediately with water or suitable proprietary eyewash for at least fifteen minutes. If irritation persists seek medical advice.

Ingestion

Wash mouth out with water but do not swallow, give plenty of water to drink. DO NOT induce vomiting. If symptoms persist, seek medical advice.

5 Fire Fighting Measures

Product is not flammable as supplied. Dried adhesive film will burn in a general fire situation to produce oxides of carbon. Use extinguishing media suitable for the general fire situation. Fire fighters must wear self-contained breathing-air apparatus.

6 Accidental Release Measures

Small spillages should be absorbed onto sand or similar absorbent material and transferred to a suitable labelled container prior to disposal.

Larger spillages should be retained by a sand barrier and collected into a suitable labelled container prior to disposal. Prevent product from entering drains or other watercourses.

Wear suitable protective equipment to prevent skin or eye contact.

7 Handling and Storage

Store product away from heat sources and foodstuffs in tight sealed containers. Store away from direct sunlight at a temperature between 5°C and 30°C in dry well ventilated areas. Protect from frost.

Avoid transfer of product from hand or glove to face, eyes or lips. Employ good hygiene practices, wash hands before smoking, meal or beverage breaks, and at the end of work periods. Smoking and the preparation or consumption of food or drink in the work area should be prohibited. Avoid frequent or prolonged contact with the skin. Remove grossly contaminated clothing and laundry before re-use.

8 Exposure Controls/Personal Protection

Ensure provision of constant fresh air ventilation during and immediately after use. Use mechanical means where natural ventilation facilities are inadequate.

Where danger of splash or eye contact exists, wear goggles or face-shield.

Where possibility of hand contact occurs, use barrier cream or impervious gloves.

Wear overalls and boots. An impervious apron should be worn where gross contamination of overalls is foreseeable in use.

9 Physical and Chemical Properties

Appearance: Viscous off white emulsion
Odour: Typical acrylic
pH: 7 – 8
Volatiles: 30% w/w approx
Rel Density: 1.19 @ 20°C approx
Flashpoint: N/A
Viscosity: 450 – 650 Poise @ 20°C approx
Other: N/A

10 Stability and Reactivity

Stability

Stable under normal temperature conditions and recommended use.

Conditions to Avoid

Avoid frost. Avoid exposure to high temperatures or direct sunlight.

11 Toxicological Information

Inhalation

May cause some discomfort in poorly ventilated areas.

Skin Contact

May cause reddening and soreness of the skin with prolonged or repeated contact.

Eye Contact

May cause irritation of the eye.

Ingestion

May cause some irritation of the alimentary tract and gastric discomfort.

12 Ecological Information

Material should not be discharged to surface waters without pre-treatment.

13 Disposal Considerations

Small Quantities

Small quantities may be mixed with inert material, allowed to dry and disposed of as low hazard general solid waste.

Large Quantities

Large quantities should be disposed of as controlled liquid waste by licensed operators.

14 Transport Information

General

This product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID)

No transport warning sign required.

ADR Class

Not classified for transportation.

Marine Pollutant

Not classified as a marine pollutant.

15 Regulatory Information

(i) Classification/Symbol: Not Classified

(ii) Risk Phrases: Not Classified

(iii) Safety Phrases: P13 Safety Data Sheet available for professional user on request.

The information contained in this data sheet does not constitute the user's own assessment of workplace risk as required by other health and safety legislation.

16 Other Information

Risk Phrases in Full

R22 Harmful if swallowed

R36 Irritating to eyes

1 Identification of Preparation and Company

Product

Amtico Universal 2-Part Adhesive

Two component polyurethane adhesive – Component A.

This component has to be mixed with the component B of the product according to the mixing ratio. Please note also safety data sheet of component B.

Company:

Amtico International

Kingfield Road, Coventry, UK CV6 5AA

Tel: +44(0)24 7686 1400

Fax: +44(0)24 7686 1552

2 Composition/Information on Ingredients

Adhesive preparation based on polyalcohol and fillers.

3 Hazards Identification

According to our present information, this product is not classified as a dangerous preparation under the Chemicals (Hazard Information and Packaging for Supply) (CHIP) Regulations (1994).

Maintain good personal hygiene as usual when handling chemicals.

4 First Aid Measures

After Contact with Skin

Wash with plenty of soap and water.

After Contact with Eyes

Rinse immediately with plenty of water and seek medical advice.

After Ingestion

Seek medical advice.

5 Fire Fighting Measures

Extinguishing media: alcohol resistant foam, CO₂, powder, water spray. Closed packages may be cooled with water spray.

6 Accidental Release Measures

Scoop up, soak up remainder with sand or earth and remove. Do not empty into drains.

7 Handling and Storage

Handling

Wear suitable protective clothing, gloves and eye/face protection.

Storage

Keep container tightly closed and dry. Keep away from food stuffs.

8 Exposure Controls and Personal Protection

Exposure Controls

Ingredients assigned either maximum exposure limits or occupational exposure standards in HSE Guidance Note EH40: None.

Personal Protection

- (i) Avoid contact with skin and eyes. Wash hands before breaks and end of work. Take off immediately all contaminated clothing.
- (ii) Eye protection: recommended minimum light eye protection.
- (iii) Hand protection: protective gloves (vinyl or polyurethane rubber).

9 Physical and Chemical Properties

Form:	Pasty
Colour:	Yellowish
Odour:	Slight
Density (20°C):	Appr. 1.5g/cm³
Vapour Pressure (20°C):	Below 1 mbar
Viscosity:	Appr. 70.000 mPas Brookfield RV 7, 20 rpm
Solubility in water (20°C):	Partly soluble
Flash Point:	Not applicable
Ignition temperature:	Not applicable
Explosion limits:	Not applicable

10 Stability and Reactivity

No thermal decomposition, hazardous decomposition products, or hazardous reactions when properly stored and used as designated.

11 Toxicological Information

According to our experience and present information, this product presents minimal health hazard when used as designated and protective measures are followed.

12 Ecological Information

Do not empty into drains. Product is not a weak water pollutant.

13 Disposal Considerations

Incineration or waste disposal in compliance with applicable pollution abatement laws and environmental regulations (Control of Pollution Act (1974) and Environmental Protection Act (1990)).

14 Transport Information

Not dangerous goods in sense of mentioned transport regulations: ADR/RID, IMDG, ICAO/IATA-DGR. U.N. No – not classified. Marine pollutant – no.

15 Regulatory Information

Classified and labelled for supply in accordance with the Chemicals (Hazard Information and Packaging for Supply (CHIP)) Regulations (1994) as follows:-

Health – not classified

Physico-chemical – not classified

16 Other Information

The information herein is given in good faith. No warranty expressed or otherwise is made. Any use of this data and information must be determined by the user to be in accordance with applicable laws and regulations.

1 Identification of Preparation and Company

Product

Amtico Universal 2-Part Adhesive

Two component polyurethane adhesive – Component B

This component has to be mixed with the component A of the product according to the mixing ratio. Please note also safety data sheet of component A.

Company

Amtico International
Kingfield Road, Coventry, CV6 5AA, UK
Tel: +44(0)24 7686 1400
Fax: +44(0)24 7686 1552

2 Composition/Information on Ingredients

Diphenylmethane-4, 4'-di-isocyanate (MDI) with its isomers and homologues.

Name of Substance: Diphenylmethane-4, 4' di-isocyanate
CAS-No: 101-68-8
% 50-100
Classification: Xn, R20, R36/37/38 R42/43

3 Hazards Identification

As classified under the Chemicals (Hazard Information and Packaging for Supply) (CHIP) Regulations (1994).

Xn: Harmful, Contains isocyanates
R-phrases: R20: Harmful by inhalation R36/37/38: Irritating to eyes, respiratory system and skin R42/43: May cause sensitisation by inhalation and skin contact

4 First Aid Measures

- (i) General
In all cases of doubt, or when symptoms persist, seek medical attention. If unconscious, place in recovery position. Give nothing by mouth.
- (ii) After contact with skin
Remove immediately with paper tissue or gauze. Wash off remainder with plenty of soap and water.
- (iii) After contact with eyes
Rinse immediately with plenty of water and continue for at least ten minutes. Seek medical advice.

- (iv) Ingestion
DO NOT induce vomiting. Keep at rest. Seek medical advice.
- (v) Inhalation
In case of over-exposure, remove person to fresh air, seek medical advice. If breathing is irregular or stopped, administer artificial respiration.

5 Fire Fighting Measures

Extinguishing media: alcohol resistant foam, CO₂, powder, water spray. Closed packages may be cooled with water spray.

Not to be used: Small amounts of water (reacts with hot isocyanate).

6 Accidental Release Measures

Absorb onto suitable material, such as sand or sawdust. Scoop up after 1 hour, and keep in an open container. Keep wet and store outside for 7 to 14 days. Do not empty into drains. Dispose in accordance with applicable legislation.

7 Handling and Storage

Handling

Wear protective gloves and eye/face protection. Use only in well ventilated areas.

Storage

Keep container tightly closed and dry. Keep at temperature between 10°C and 40°C. Frost sensitive. Keep away from foodstuffs.

8 Exposure Controls and Personal Protection

Exposure Controls

Ingredients assigned a maximum exposure limit (MEL) in HSE Guidance Note EH40:

Ingredient: Diphenylmethane-4, 4' di-isocyanate
CAS-No: 101-68-8
% 50-100
Limit-value: 0.005 ppm

Exposure of persons by inhalation must at all times be controlled to a level below the MEL.

Personal Protection

- (i) Avoid contact with skin and eyes. Wash hands before breaks and end of work. Remove all contaminated clothing immediately.
- (ii) Eye protection: recommended minimum light eye protection.
- (iii) Hand protection: protective gloves (vinyl or polyurethane rubber)
- (iv) Use only in well ventilated areas. Otherwise, suitable respiratory protection must be worn.

9 Physical and Chemical Properties

Form: Liquid
Colour: Brown
Odour: earthy-musty
Density (20°C): Appr. 1.23g/cm ³
Vapour Pressure (20°C): <0,0001 mbar
Viscosity: Appr. 250 mPas
Solubility in water (20°C): insoluble, soluble in acetone, ethyl acetate
Flash Point: Over 200°C
Ignition temperature: Over 400°C
Explosion limits: limits not determined

10 Stability and Reactivity

Thermal decomposition: Polymerisation above approximately 260°C and CO₂ generation.

No hazardous decomposition products when properly stored and used as designated.

Hazardous reactions: Violent reaction with alkali, amines, alcohols, acids. Reacts with water with CO₂ generation.

Pressure increase in closed containers possible. Danger of bursting! These containers should be opened carefully.

11 Toxicological Information

LD₅₀-value oral, rat: over 15,000 mg/kg. LD₅₀-value inhalation, rat: over 370 mg/aerosol/m³ (4h exposure).

Effect on eyes: tear flow, burning severe irritation.

Skin: slight redness, occasional blistering or dermatitis.

May cause sensitisation.

Respiratory system (aerosol, vapour in high concentration): irritation of mucosa (nose, throat, lungs) dryness of throat, pressure on breast occasionally combined with breathing difficulties and headache. Symptoms and allergic reactions may occur after some delay in sensitised persons. All persons exposed to respiratory sensitisers are subject to appropriate health surveillance.

12 Ecological Information

Do not empty into drains. Product is a weak water pollutant.

This component reacts with water over contact area with slow generation of CO₂ to form insoluble polyurea.

According to our information polyurea is inert and not degradable.

13 Disposal Considerations

Incineration or waste disposal in compliance with applicable pollution abatement laws and environmental regulations (Control of Pollution Act (1974) and Environmental Protection Act (1990)).

14 Transport Information

Not dangerous goods in sense of mentioned transport regulations: ADR/RID, IMDG, ICAO/IATA-DGR.

Irritating to skin and mucous membranes. Protect from frost. Avoid heat above +50°C. Keep dry. Keep separate from foodstuffs.

UN No – not classified. Marine pollutant – no.

15 Regulatory Information

Classified and labelled for supply in accordance with the Chemicals (Hazard Information and Packaging for Supply) (CHIP) Regulations (1994) as follows:-

Xn:

Harmful, Contains isocyanates, Contains Diphenylmethane-4,4'-di-isocyanate (MDI), isomers/homologues.

R-phrases:

R20: Harmful by inhalation

R36/37/38: Irritating to eyes, respiratory system and skin
R42/43: May cause sensitisation by inhalation and skin contact

S-phrases:

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S27: Take off immediately all contaminated clothing

S28: After contact with skin, wash immediately with plenty of water and soap.

S36/37/39: Wear suitable protecting clothing, gloves and eye/face protection

S45: In case of an accident or if you feel unwell, seek medical advice immediately, (show label where possible).

16 Other Information

The information herein is given in good faith. No warranty expressed or otherwise is made.

Any use of this data and information must be determined by the user to be in accordance with applicable laws and regulations.

1 Identification of the Substance/Preparation and Company Undertaking

Product

Amtico HT Adhesive

Application

Flooring Adhesive

Supplier

Amtico International Ltd
Kingfield Road
Coventry
England, CV5 6AA

2 Composition/Information on Ingredients

Name: 2-Phenoxyethanol
EC No: 204-589-7
CAS-No: 122-99-6
Content 1-5%
Classification: Xn,R22; Xi, R36

The full text for all R-phrases is displayed in Section 16

Composition comments: A blend of synthetic polymer emulsion, resin and inert fillers containing small percentages of stabilisers and thickening agent.

3 Hazards Identification

Not regarded as a health or environmental hazard under current legislation.

4 First Aid Measures

Inhalation

Move the exposed person to fresh air at once; seek medical attention if discomfort continues.

Ingestion

Rinse mouth thoroughly with soap and water; remove contaminated clothing; seek medical attention if irritation persists after washing.

Eye Contact

Immediately rinse with water; continue to rinse for at least 15 minutes; seek medical attention if discomfort continues.

5 Fire Fighting Measures

Extinguishing Media

This product is not flammable; use fire-extinguishing media appropriate for surrounding materials.

6 Accidental Release Measures

Personal Precautions

Use protective gloves, goggles and suitable protective clothing.

Environmental Precautions

Do not discharge into drains, water courses or onto the ground.

Spill Clean Up Methods

(i) Small Spillages

Absorb with sand or other inert absorbent.

(ii) Large Spillages

Dam and absorb spillages with sand, earth or other non-combustive material. Collect spillages in containers, seal securely and deliver for disposal according to local regulations. Wear necessary protective equipment.

7 Handling and Storage

Usage Precautions

Provide good ventilation. Do not use in confined spaces without adequate ventilation and/or respirator. Avoid contact with skin and eyes. Observe good industrial hygiene practices. Do not eat, drink or smoke when using the product.

Storage Precautions

Keep separate from food, feedstuffs, fertilisers and other sensitive material. Store in closed original container at temperatures between 5°C and 30°C. Protect from freezing and direct sunlight.

8 Exposure Controls/Personal Protection

Engineering Measures

Provide adequate ventilation.

Hand Protection

For prolonged or repeated skin contact use suitable protective gloves.

Eye Protection

If risk of splashing, wear safety goggles or face shield.

9 Physical and Chemical Properties

Appearance:	Viscous emulsion
Colour:	Off-white
Odour:	Typical adhesive
Relative Density:	1.24 @20°C
Viscosity:	1100-1200 Ps @20°C
Volative by vol (%):	30% approx w/w
Flash point °C	N/A

10 Stability and Reactivity

Stability

Stable under normal temperature conditions and recommended use.

Conditions to Avoid

Avoid frost; exposure to high temperatures and direct sunlight.

11 Toxicological Information

Inhalation

May cause some discomfort in poorly ventilated areas.

Ingestion

May cause discomfort if swallowed.

Skin Contact

Prolonged contact may cause redness and irritation. Skin irritation is not anticipated when used normally.

Eye Contact

May cause irritation, soreness and reddening of the eyes.

12 Ecological Information

There are no data on the ecotoxicity of this product.

13 Disposal Considerations

Dispose of waste and residues in accordance with local authority requirements. Small quantities may be absorbed in sand and allowed to dry, prior to disposal as low hazard waste. Larger quantities should be disposed of as controlled liquid waste via a licensed waste operator.

14 Transport Information

General

This product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID)

No transport warning sign required.

ADR Class

Not classified for transportation.

Marine Pollutant

Not classified as a marine pollutant.

15 Regulatory Information

Risk Phrases

Not classified.

Safety Phrases

P13; safety data sheet available for professional user on request.

16 Other Information

General Information

Technical Data Sheet

Revision Date

April 2007.

Risk Phrases in Full

R22 Harmful if swallowed

R36 Irritating to eyes

1 Description

An acrylic emulsion adhesive, which is designed to give a high bond strength, strong initial tack and a long open time. It is protected against bio-degradation. For securing Amtico floor coverings onto sound, smooth, dry subfloors of concrete including ones with a power floated surface finish; terrazzo; granolithic; sand/cement screed, smoothing underlayments, plywood and many other substrates that have been suitably prepared. Asphalt and waterproof membranes must be skimmed with a minimum of 3mm of the appropriate smoothing underlayment.

2 Standards

All aspects of the installation of floor coverings should be in accordance with the requirements of the relevant British Standard Code of Practice i.e. BS 8203 (Installation of resilient floor coverings) and supplementary specifications.

3 Preparation

Proper subfloor preparation is essential for the correct installation of any floor covering. Subfloors must be sound, smooth, dry and free from any contaminants which will affect adhesion. Tiles, adhesive and subfloor should be allowed to stabilise to a temperature as close as practical to room temperature, but in all cases between 18°C and 27°C for a period of 24 hours before, during and 24 hours after installation. Tiles must be stored flat.

4 Damp Floors

Treat with waterproof surface membranes.

5 Smoothing

Use the appropriate smoothing underlayments.

6 Priming

On very absorbent surfaces use a suitable dilute PVA primer.

7 Technical Characteristics

Colour	Off-White
Consistency	Viscous Liquid
Specific Gravity	1.19
Flash Point	Not Applicable
Coverage	Approximately 4m ² per litre using the 1.5mm x 5mm or A2 trowel, depending on the condition and absorbency of the subfloor.
Open Time	Up to 60mins, depending on temperature, and absorbency of subfloor.
Storage	To avoid damage store at temperatures between 5° and 30°C.
Shelf Life	12 months in unopened containers, stored under good conditions.
Packages	15 litres, 5 litres and 2.5 litres.

8 Tools

1.5mm x 5mm or Euro A2 'V' notched trowel. 45kg flooring roller. Paint roller. Trimming knife. Tools should be cleaned with water while the adhesive is still wet.

9 Application

Stir adhesive well before use.

Holding the trowel at an angle of 60°, spread the adhesive evenly over an area of subfloor that can be covered whilst the adhesive remains receptive and gives good transfer.

On absorbent surfaces – Leave the adhesive for approximately 10 minutes before placing the flooring, to reduce the potential for sliding.

Non-absorbent surfaces – allow the adhesive to partially dry to a firm tack before laying the floor covering

Lay the floor covering into the adhesive and press from the centre outwards to ensure overall contact with the adhesive. Roll with the 45kg flooring roller, from end to end and side to side to ensure overall contact paying particular attention to the tile edges. 30 minutes later when the floor has been completely covered roll as necessary to ensure overall contact is maintained. Remove any adhesive from the face of the tile with a cloth moistened with Amtico Adhesive Remover.

10 Precautions

The finished floor should be protected from point loads and heavy traffic for 24 hours after installation.

Tiles may be damp mopped 24 hours after installation.

11 Health and Safety Advice

Obtain the relevant Material Safety Data Sheets and follow the advice given.

Ensure adequate fresh air ventilation during and after use.

Avoid prolonged contact with skin, use barrier cream or gloves for the hands. In case of contact with eyes, mouth or nose, wash with water and obtain medical attention.

If spilled, remove and dispose of in accordance with national and local regulations for waste materials.

1 Table of Technical Data

Universal 2-Part is a solvent free, two-component polyurethane adhesive, which has been especially formulated for use with PVC floorings from Amtico International. It may be used for bonding PVC onto smooth surfaces like concrete, terrazzo, stone, timber, metal and many other sub-floors.

Technical Data:	
Packaging:	2.5 and 6 kg metal cans (two-component combi-can)
Shelf Life:	12 months
Storage:	10 – 40°C Frost-sensitive
Colour:	beige
Specific density:	1.50 kg / litre
Hazard Classification:	Component A: none Component B: harmful, Xn
Consumption:	400 – 500 g/m ² (2.0 – 2.5 m ² /kg)
Coverage:	5 – 6 m ² per 2.5 kg drum 12 – 15 m ² per 6 kg drum
Trowel Notch Size:	see page 2
Pot Life:	approx 30 minutes
Working Time:	40 – 60 minutes
Working Temperature:	18 – 27 °C
Set to Heavy Foot Traffic:	after 24 hours
Final Strength:	after 3 – 5 days
Resistance to castors:	suitable (EN 425)
Underfloor Heating:	suitable (see Ambient Conditions below)

All information and data provided apply under normal conditions and at 20°C.

2 Sub-floor

Direct to earth bases should incorporate an effective damp-proof membrane. The sub-floor must be permanently dry (maximum 75% RH), smooth, clean, sound, be free from structural defects and have adequate compressive strength. Surfaces must be free from contamination, attachments or material which would impair adhesion. Uneven surfaces should be smoothed with an appropriate levelling compound – select according to occupational use of the area.

3 Ambient Conditions

Laying conditions should be as close as practicable to the occupational use of the project, but must in all cases be in the range described above (see “working temperature”).

Tiles, adhesive and sub-floor must be allowed to stabilise to ambient conditions – the temperature should be maintained for a period of 24 hours before and after the installation – obtain specific advice for sub-floor with under-floor heating. Installation of primers, levelling compounds, adhesives or floor coverings, in conditions outside those defined and prescribed in the relevant standard, may be detrimental to one of the installed components or the overall installation. Storing Universal 2-Part Adhesive in low temperatures will increase the product viscosity, making the adhesive difficult to mix and spread and will considerably delay curing and strength development. High adhesive temperatures will decrease the pot life and working time.

4 Packaging

Universal 2-Part Adhesive is supplied in two-component metal combi-cans, which contain the correct proportions of resin (A) and hardener (B) for mixing. Under no circumstances must the components or the adhesive be diluted or otherwise adulterated. Always mix the full contents of both parts together – do not split into two or more separate mixes.

5 Protection

Although Universal 2-Part Adhesive is solvent-free and non-flammable, component B is classified as harmful and can irritate the eyes, respiratory system and skin. Wear suitable personal protective equipment (PPE) eg. protective clothing, mask, gloves and eye protection during mixing and application. Once cured, the adhesive presents no physiological or ecological risk. Refer to the Material Safety Data Sheet for more detailed information.

6 Application

Release the hardener (B) completely into the resin (A) by carefully piercing several times through the central plastic cover and bottom of the upper can with a pointed tool, such as a screwdriver. When all of the hardener has been transferred, remove the upper section of the can and thoroughly mix the material, using an electric drill with spiral whisk or paddle attachment, to a smooth and uniform consistency. The adhesive should be spread immediately onto the floor with a suitable notched trowel (see below for typical recommendations). Worn or damaged trowels must be replaced to ensure the correct adhesive coverage, which is generally 2.0 - 2.5 m² per kg. Trowel type has been carefully selected to ensure adequate adhesive transfer.

7 Standard Trowel Notch Sizes

UK	Euro	USA
1.5 x 5 mm	A2	1/16 x 1/16 x 1/16" V-notch
Consumption: 400 g/m ²	450 g/m ²	500 g/m ²

8 Covering Installation

Only a sufficient area of adhesive should be applied to the sub-floor that can be covered within 40 to 60 minutes. Pot life must be observed. Higher temperatures will accelerate the cure of the product and lower temperatures will retard the cure. Tiles requiring hand-cutting must not be cut oversize and then sprung into position. They must be cut such that they fit neatly into position without needing to bend or apply force. Roll the floor covering as soon as possible after laying, but within 60 minutes, using a 45 kg 3-section roller to ensure full transfer of the adhesive. The product provides excellent grab and very high strength. The finished floor should be protected from point loads and heavy traffic for 24 hours after installation, and floors must not be washed for 48 hours.

9 Cleaning

Tools and tiles should be cleaned immediately with a soft cloth moistened with methylated spirits or denatured alcohol. Cured adhesive can only be removed mechanically.

10 Other Information

The information contained in this Data Sheet is specific to the installation of floor coverings from Amtico International. The information is general and is only given as a guide.

This information is based on our experience to date and the result of careful testing. However, practical application of the products is influenced by varying site conditions and methods of use. Success is also dependent upon the professional judgement of the user and his/her conformity to proper trade practice, which are factors outside our control.

1 Description

A co-polymer emulsion adhesive having particularly high resistance to both heat and PVC plasticisers. It is solvent free, protected against bio-degradation and is suitable for use over normal underfloor heating installations.

For securing Amtico floor coverings onto sound, smooth and dry surfaces of concrete, sand/cement screed, smoothing and underlayments, plywood and many other substrates that have been suitably prepared. Asphalt and waterproof membranes and non-absorbent surfaces such as granolithic, terrazzo and quarry tiles must be skimmed with a minimum of 3mm of the appropriate smoothing underlayment.

2 Preparation

Proper subfloor preparation is essential for the correct installation of any floor covering. Subfloors must be sound, smooth, dry and free from any contaminants, which will affect adhesion. Tiles, adhesive and subfloor should be allowed to stabilise to a temperature as close as practical to room temperature, but in all cases between 18°C and 27°C for a period of 24 hours after installation. Tiles must be stored flat.

Damp Floors

Treat with waterproof surface membranes.

Smoothing

Use the appropriate smoothing underlayments.

Priming

On very absorbent surfaces use a suitable PVA primer.

Tools

Euro A2 'V' notched of 1.5mmx5.0mm adhesive spreader. Tools should be cleaned with water whilst the adhesive is still wet.

3 Application

Spread the adhesive evenly over an area of the subfloor that can be covered whilst the adhesive remains receptive and gives good transfer. Lay the floor covering into the adhesive and press from the centre outwards to exclude air and ensure overall contact with the adhesive. Roll with a 45kg flooring roller from end to end and side to side. Re-roll as necessary to ensure overall contact is maintained. Remove any adhesive from the face of the tile with a cloth moistened with Amtico Adhesive remover.

4 Technical Characteristics

Colour	Off-White
Consistency	Viscous Liquid
Specific Gravity	1.24
Flash Point	Not Applicable
Coverage	Approximately 4m ² per litre using the 1.5mm x 5mm or A2 trowel, depending on the condition and absorbency of the subfloor.
Open Time	Up to 30mins, depending on temperature, humidity and absorbency of the subfloor.
Storage	To avoid damage store at temperatures between 5°and 30°C.
Shelf Life	12 months in unopened containers, stored under good conditions.
Packages	15 litres and 5 litres.

5 Precautions

Underfloor heating must be switched off at least 48 hours before and 48 hours after installation. It must not be switched on during installation. Do not apply loads or move furniture on the floor covering until the adhesive has fully set.

6 Health and Safety Advice

Obtain the relevant MSDS and follow the advice given. Ensure adequate fresh air ventilation before and after use. Avoid prolonged contact with the skin, mouth or nose, wash with water and obtain medical attention. If spilled, remove and dispose of in accordance with local regulations for waste materials.

